



DYNAMIC RANDOM ACCESS MEMORY HAVING TRENCH CAPACITOR

✓ ABSTRACT OF THE DISCLOSURE

In a dynamic random access memory having a trench capacitor, a first conductive layer is formed on all of the inner surface of the trench except for a region adjacent to the opening portion of the trench, a dielectric layer is formed on the first conductive layer
5 exposed in the trench and the surface of the semiconductor substrate, and a second conductive layer of the other conduction type is filled in the trench through the dielectric layer. The first conductive layer, the
10 dielectric layer, and the second conductive layer constitute a storage capacitor. In this dynamic random access memory, a metal insulator semiconductor transistor is formed in the semiconductor substrate, a source or drain region of the transistor of the other conduction
15 type is in contact with the second conductive layer through the dielectric layer, and the second conductive layer is connected with the source or drain region of the other conduction type.